Target Population

PublicH

Population-Based

Real Causes of Death

Risk Factors

Chapter 1

Public health: What it is and why we need it

We see it all too often on TV, in the newspaper, in our neighborhoods: A child suffers a debilitating head injury in a bicycle crash because she wasn't wearing a helmet; two teenagers die in a car crash caused by a drunk driver; a 45 year old man ends up in the hospital with congestive heart failure, having smoked since he was 12; a toddler, sick from under cooked restaurant meat, clings to life in an intensive care unit.

These preventable tragedies happen too often and cost too much.

In 1990, nearly 8,000 Washingtonians died from tobacco-related illness — one-fifth of all deaths in the state. Direct medical care costs associated with tobacco use that year were estimated at $437 million. The loss of economic productivity from people dying young or getting sick added an estimated $845 million to the costs.

Motor vehicle crashes are the leading cause of unintentional injury and death for children aged 1-14 in Washington. Child safety seats lower a child's chance of death and injury by about 70%. In 1991, child safety seat use prevented more than 180 deaths and 70,000 injuries nationwide, for a total estimated savings of $3.5 billion.

A 50% bicycle helmet use rate would result in an estimated 840 fewer head injuries among children ages 5-9 over a five year period, saving approximately $9.5 million.

Cardiovascular disease (CVD), including heart disease and stroke, is the leading cause of death in Washington, accounting for about 42% of all deaths. CVD mortality can be reduced by controlling four major modifiable risk factors: physical inactivity, tobacco use, high blood pressure, and high cholesterol.

Public health threats: A part of our world

What do cigarettes, cars, raw meat, and septic tanks have in common?

First of all, they affect every person in our society. We may modify their influence according to our likes and dislikes, but we can not avoid them completely.

Secondly, they can be health threats of the first magnitude. The first line of defense against these health threats is not medical care, but something less visible and harder to define—something we call public health.

When medical care becomes necessary—to treat lung cancer or emphysema, to repair human damage caused by a car crash, to keep a child alive after an attack of E. coli, to treat severe intestinal disease—it's a safe bet that insufficient resources were

The real causes of health problems

Most preventable health problems in our society—including about half of all deaths—are caused by tobacco use, improper diet, lack of physical activity, alcohol misuse, microbial and toxic agents, firearm use, unsafe sexual behavior, motor vehicle crashes, and illicit use of drugs.

The environment and community in which we live affect our ability to make good choices about our health. The extent to which we adequately educate our children, provide opportunities for jobs, and ensure a clean and safe environment will make a difference.

While universal access to personal health care is a critical goal, it will not, in and of itself, fully address these fundamental causes of illness, injury, disability, and premature death.

The element of personal and community responsibility in these causes of health problems is inescapable. With the possible exception of some microbes and toxic agents, all of the causes listed above are primarily a result of human behavior.

allocated to the public health system to address the problem earlier. The degree of success of the preventive public health measures affects the extent of the problems in society and the types and amounts of medical care needed.

The burning cigarette, the moving car, the raw hamburger, and the failed on-site sewage system are all carriers of health threats which are best dealt with early.

The properly functioning septic system helps protect the source of one of life's essentials—safe water. If the septic system fails and allows sewage to contaminate water supplies, it can be instrumental in wreaking havoc on human digestive systems. One of the jobs of public health is to identify on-site sewage systems that do not adequately protect water sources.

The raw hamburger can be a source of nourishment and sustenance, to say nothing of pleasure, if it is cooked and served properly. Improperly cooked, it can transmit E. coli bacteria which cause serious illness and death, particularly among young children. Public health must regulate commercial cooking practices so E. coli and other dangerous organisms are destroyed before they reach our stomachs. Public health also operates the surveillance programs which identify outbreaks of foodborne illness and take steps to control them once they do occur.

The car gets us to work, to school, to commerce, and to play. It is a symbol of material wealth and independence. It is also a deadly instrument—a carrier of massive energy that can cause untold injury and suffering when transferred abruptly to human beings. Public health promotes safety measures which prevent motor vehicle crashes or minimize their damaging effects. Public health also supports a strong emergency medical services and trauma system that can respond quickly and properly when crashes do occur.

Even the cigarette has its proponents — those who say it brings pleasure and has a place in our economy. But the cigarette also has its well-known downside — it is addictive and causes lung cancer, chronic lung disease, heart disease, stroke, and other health problems which account for a huge segment of the health and illness care consumed in our society. One of the jobs of public health is to document and publicize the ill effects of tobacco and to press for measures which prevent tobacco-related illness.

A population-based approach to health

The point of these four examples is that public health problems are related to individual and family health problems, but they require action on a different scale and in different settings than the medical diagnosis and treatment which we usually think of as "health care." Public health services are less visible and more difficult to understand than medical services. They generally operate at a community-wide level rather than an individual level. The most common tools of public health are education, sanitation, and regulation.

Public health is not simply medical care funded or provided through public means. Public health uses a different approach to health problems—a highly collaborative and chiefly preventive approach which most often affects us as members of the general public rather than as individual citizens or patients.

Even when public health plays a role in personal, individual health services—immunizations, for example—it is less concerned with giving actual shots and more

The changing focus of public health

The classic epidemiologic model for public health—developed to explain communicable disease—identifies the host of a problem (generally a human), the agent (the most basic underlying cause, such as the E. coli bacterium), and the environment. A part of the environment may be one or more vectors—organisms which carry the agent from one host to another (rats or lice, for example).

As public health and medicine, in tandem, made successful inroads into communicable diseases such as tuberculosis and influenza, public health turned more of its attention to noncommunicable diseases and injury, which are now the major killers in our population, as well as to issues of maternal and infant health. In these areas, the classic model is sometimes informative, but the distinctions between hosts, agents, vectors, and environments are often less clear. What, for example, is the real agent of teenage pregnancy? Is it the sperm, the father, the mother, the "permissiveness" of the society, the failure to educate, the unavailability of birth control? Debates about such subjects are common in the public health field.

concerned with identifying groups of people who are not fully immunized and setting in motion the policies which will result in more complete immunization of the population. Public health does provide clinical services to populations at risk for certain communicable diseases. This not only enhances the health of the individuals directly served, but protects the health of the entire population by reducing the potential for spread of infection throughout the community.

It is partly this focus on groups of people—the population-based approach—that gives public health its power to accomplish things which individualized medical care can not.

Another reason for the power of public health is its emphasis on primary prevention of disease, injury, disability, and premature death. Prevention includes: primary prevention, which reduces susceptibility or exposure to health threats through health promotion and protection measures; secondary prevention, which most often detects and treats disease in early stages; and tertiary prevention, which alleviates some of the effects of disease, injury and disability. The public health approach is to emphasize primary prevention, which has the greatest potential to address problems at their very core.

A third reason for the power of public health is its diversity. It is a complex partnership of public and private entities, requiring a great deal of coordination and communication, but offering tremendous resilience and responsiveness to unique local needs.

The Public Health Improvement Plan was developed with the involvement of all these partners, including hospitals, community clinics, other medical providers, business, labor, local and state elected officials, consumers, volunteer community organizations, as well as state and local public health officials. This first plan concentrates primarily on what must be done by official government public health jurisdictions to improve public health in Washington.

The 1994 plan includes recommendations for public health capacity — the basic infrastructure —needed to prevent disease, injury, disability, and premature death. It introduces principles for guiding the structure and financing of the public health system. It describes some key public health problems facing Washington residents today, including initial proposed standards and actions to address those problems.

The following gives a brief overview of how the official public health system now looks and operates in Washington State.

The State Department of Health works closely with the State Board of Health to set state public health policies. The State Board of Health is a citizen board appointed by the Governor. The Department of Health is a state agency, comprised of six divisions (Epidemiology and Health Statistics, Environmental Health, Community and Family Health, the Public Health Laboratory, Health Systems Quality Assurance, and Management Services). These divisions provide technical and support services to local health jurisdictions.

The PHIP Steering Committee process

In July 1993 Department of Health Secretary Bruce Miyahara appointed a 26-member Steering Committee to oversee development of the Public Health Improvement Plan. This committee has broad-based representation from business, labor, the Legislature, tribal government, public health professionals, consumers, local and state government agencies, and health care providers. The steering committee began meeting regularly beginning in September 1993.

Three technical advisory committees were established to develop and propose specific portions of the plan. Memberships of these committees reflected the broad perspectives of the steering committee.

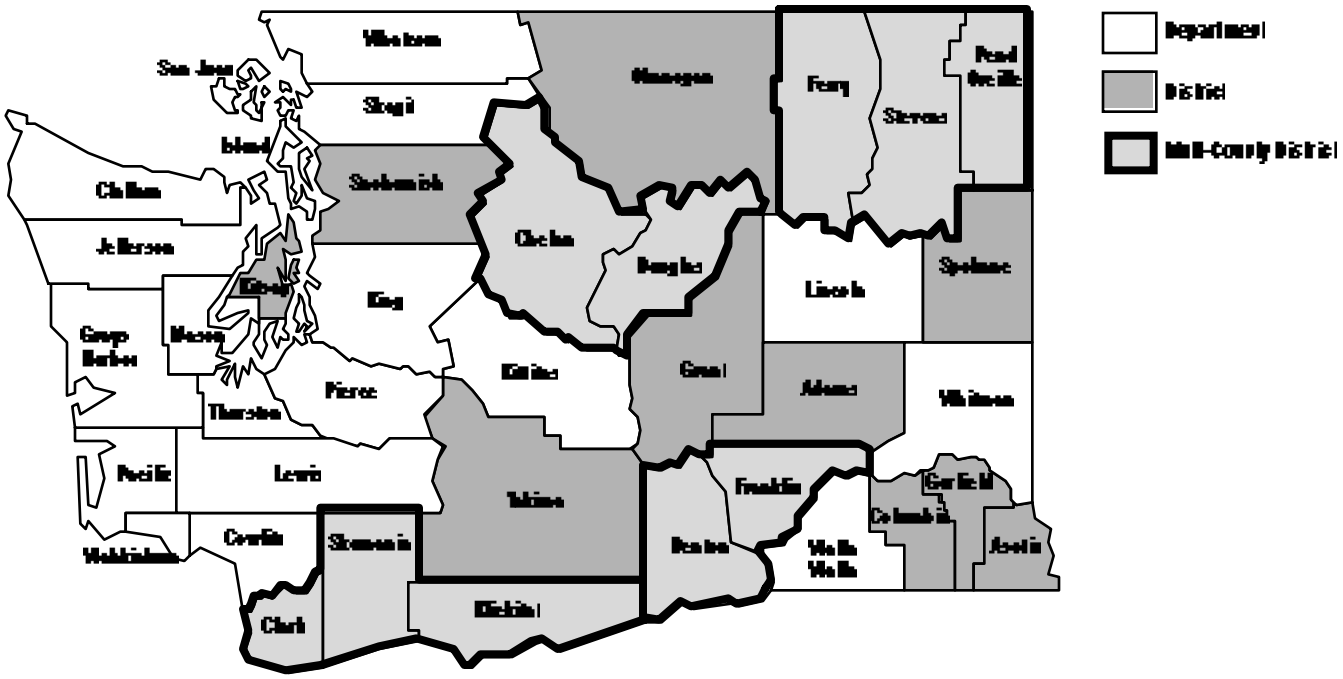
The Capacity Standards Technical Advisory Committee met at least monthly between September 1993 and July 1994 to define the components of the basic infrastructure of the public health system. They developed standards for community assessment, policy development, administration, prevention, and access and quality. They estimated resources needed to meet these standards. These estimates provide the foundation of the proposed budget for implementing the plan.

The Activities Technical Advisory Committee had five subcommittees, which met between September 1993 and May 1994 to develop intervention strategies for current key public health problems. This committee developed outcome standards, which are long-range, measurable goals for healthy communities. They also did ground breaking work in developing threshold standards that relate to emerging health issues.

The Finance and Governance Technical Advisory Committee met monthly from October 1993 to August 1994 to develop principles for public health financing and governance structures. They developed recommendations regarding appropriate state and local responsibilities in these areas.

Over 75 people donated their time to participate on these committees. (See Appendix F for a list of members.) Over 100 additional people throughout the state and the nation reviewed drafts of standards and intervention strategies.

Washington's local health jurisdictions



There are 33 local health jurisdictions in Washington. Organized on a county or multi-county basis according to provisions in the Revised Code of Washington (RCW), the local health jurisdictions are the "action arms" of the public health system with responsibility for program design and delivery.

There are 19 local health departments serving about 60 percent of the state's population. Of those, 17 are single-county departments (under RCW 70.05) and two (Seattle-King County and Tacoma-Pierce County, under RCW 70.08) are combined city/county departments. In the single-county departments, the county commissioners are the board of health, and the department is administratively a part of county government. The city-county departments have different interlocal agreements outlining the governance composition.

There are 14 local health districts (under RCW 70.46) serving about 40 percent of the state's population. Four of these districts combine more than one county (Northeast Tri-County, Chelan/Douglas, Benton/Franklin, and Southwest Washington). Health districts are separate political subdivisions. Their boards of health are generally larger than those of departments and include county and city representation.

The largest local health jurisdiction — the Seattle-King County Department of Public Health — serves over one and a half million people, over 30 percent of the state's population. The smallest — the Garfield County Health Department — serves just over 2000 people. The ten largest jurisdictions serve 80 percent of the state's population. The ten smallest serve two percent.

Public health risk: A moving target

Public health threats are seldom static. They come and go, they grow and shrink in severity, they affect different communities and population groups in different ways. Sometimes these fluctuations are biological or environmental in nature and might occur regardless of what we do. Most often, however, they are directly or indirectly related to what we do.

Some of the things we do, as individuals, increase our exposure to health threats. The general term for this in the public health field is "behavioral risk factor." Smoking cigarettes is a behavioral risk factor. So are driving without seat belts, snorting cocaine, and eating a fat juicy rare hamburger with all the trimmings (in the latter case, if the E coli doesn't get you, the fat and cholesterol may).

Some risks are influenced not just by personal behavior, but by broader social forces, actions, or policies. For example, a strictly enforced speed limit might reduce the risk of highway fatalities. A rigorous screening program to detect a disease in early stages might reduce the risk of death from that disease. Stringent septic system regulations might reduce the incidence of waterborne disease.

In each of these cases, the likelihood of a policy being implemented and adhered to will depend on many factors, including how much it costs, who has to pay, the availability of people with the right training, the impact on individual citizens and families, the impact on various agencies and organizations, action by interest groups who support or oppose the policy, and the ability to determine whether the policy really has any effect.

The functions of public health

Because public health threats vary, it is often difficult to determine where and when they are occurring. The process of doing this is called assessment. It is a combination of science and community involvement. The science—including epidemiology and other disciplines—depends heavily on data and statistical analysis. The community involvement relies on the participation of health professionals, community members and organizations, and others with knowledge, opinions, and observations.

Health assessment includes collection, analysis, and dissemination of information on health status, personal health problems, population groups at greatest risk, availability and quality of services, resource availability, and concerns of people.

Assessment phases into policy development, a complex process of considering alternatives for action and deciding which of those to pursue. Public health policy development can involve many individuals and organizations, including state and local boards of health, elected officials, community groups, public health professionals, health care providers, and private citizens.

A vital step in policy development is the process of determining priorities—making decisions about the importance of public health problems relative to each other and to other problems competing for scarce resources.

After policies are formulated, the next step is assurance—seeing that those policies are carried out. Sometimes it is the responsibility of public health agencies to carry out a policy themselves; in other cases public health agencies monitor the situation to ensure that some other entity carries out the policy.

Risky business

Through national and state Behavioral Risk Factor Surveys, public health agencies gather and disseminate information, based on a sample of the population, regarding behaviors, practices, and conditions that either protect against health risks or make those risks higher:

Reducing health risks:

Using seat belts

Getting immunizations

Getting blood pressure checked

Getting cholesterol checked

Getting mammograms

Getting Pap tests

Exercising regularly

Increasing health risks:

Being overweight

Smoking

Drinking and driving

Binge and chronic drinking

One of the most fruitful opportunities for health promotion is collaboration between public health and medical professionals regarding effective ways to tell individual patients about risks and how to protect against them.

These three functions—assessment, policy development, and assurance—are the core functions of public health outlined by the Institute of Medicine in a comprehensive 1988 national planning document entitled The Future of Public Health. Washington's Public Health Improvement Plan builds on this framework, refines it, and makes it particular to our state, delineating the major responsibilities of state and local public health agencies.

Washington's framework retains the concepts of assessment and policy development, as presented in The Future of Public Health, essentially intact. It adds a significant piece on prevention. The central purpose of public health is prevention of disease, injury, disability, and premature death—usually through activities which protect entire communities or populations from such threats as epidemics and environmental contaminants.

The Washington plan also broadens the assurance function with a section entitled "Access and Quality." Whether services are provided directly by the state, by local public health agencies, or by other providers in a community, a primary role of both state and local governmental public health agencies is to ensure quality of services. Quality assurance programs include activities such as hospital licensing, supervision of drinking water systems, and licensing and regulation of health professions. Working with the Washington Health Services Commission and health care providers, public health agencies will assure that people have access to services they need.

Quality assurance efforts require establishment of partnerships among many affected parties, sharing of data, and tracking of measurements, programs, and changes over time. They require ongoing efforts to get community and client perspectives on quality of care or services received.

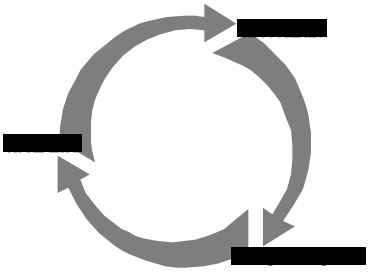
The final ingredient of the Washington plan is administration, which supports public health functions through a number of essential activities regarding personnel, budgeting, accounting, contracts, facilities, and information technology. To carry out their mission of preventing health problems, public health agencies must have a clear administrative organization which supports each of these functions through effective, efficient management.

Outcome standards: The measure of success

The PHIP identifies the capacity necessary to know what health problems exist, to develop effective interventions, and to reach defined outcomes.

The plan contains background material, standards, and interventions regarding thirty-nine key public health problems in five general areas: infectious disease; non-infectious disease; violence and injury; family and individual health; and environmental health.

The plan contains outcome standards for each of these problems (see Appendix A). These outcome standards are long-term Washington State-specific objectives, generally for the year 2000. They define optimal, measurable future levels of health status, maximum acceptable levels of disease, injury, or dysfunction, and in some cases the degree to which a particular service or program is operational. To achieve the desired health outcomes, it is essential that partners in health work collaboratively. No one type of provider can achieve the outcome standards alone.



Public health core functions: The Institute of Medicine's format

Assessment: Figuring out what the important health problems are.

Policy development: Deciding what to do.

Assurance: Doing it well or making sure someone else does it well.

These functions are linked in an ongoing process; part of assessment is determining whether prior policy development and assurance activities had the desired effects.

Opportunities for improvement

The Washington State Public Health Improvement Plan is based on specific objectives and requirements of the Health Services Act of 1993, which prescribes comprehensive health system reform for Washington State based on three main goals:

- *Control health system costs.*
- *Ensure universal access to needed health services for all state residents.*
- *Improve the health of the state's population.*

The act states that population-based services provided by state and local public health jurisdictions are cost-effective. They are a critical part of strategies to control costs in the long term and use resources most effectively and efficiently. The act also states that the core public health functions of health assessment, policy development, and assurance of service delivery are essential elements in achieving the objectives of health system reform in Washington State.

The idea that public health can be improved is not an indictment of the present system. It is based on a recognition that the current system lacks the full capacity to fulfill its responsibilities consistent with the needs of a reformed health system, and on the assumption that even a good system can be improved.

Our current overall health system concentrates on clinical curative and therapeutic services rather than prevention. About 12 percent of the current public health spending in Washington State pays for clinical services.

Some of the clinical capacity currently in the public health system will move from the public health system to the health care system as universal insurance coverage phases in. Some clinical service capacity, however, should be retained in the public health system to protect against communicable disease and to assure access.

Another factor influencing the need for the Public Health Improvement Plan is categorical funding of public health through programs that focus on only one disease or population subgroup. These narrow programs restrict the ability of public health agencies to respond to changing needs and lead to insufficient core function capacity, inefficient efforts, and lack of coordination of efforts among partners.

Health system reform offers the opportunity for public health to focus on prevention, and to do so in ways that reflect local and state priorities. The keys to this are improved core function capacity, stable non-categorical funding, and an emphasis on addressing local problems.

The essentials of public health practice:

- Public health focuses on primary prevention—prevention that occurs prior to the onset of a health problem.
- Public health protects communities through monitoring and surveillance for infectious and toxic agents.
- Public health responds to unanticipated natural and human-generated disasters.
- Public health notifies and educates individuals and families about risks and protective measures they can take.
- Public health provides clinical services to hard-to-reach populations.
- Public health maintains diagnostic laboratory services to support diverse monitoring and prevention programs.
- Public health collects information on health status and outcomes of treatment and other interventions.